ELEVATE LABS INTERN

Abinaya K – abinaya26kannan@gmail.com

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Task 5: Cloud Database (AWS RDS)

Objective

To understand how cloud databases work by creating a managed MySQL database (AWS RDS), connecting it securely from an EC2 instance, performing basic SQL operations, and learning how to manage and clean up cloud resources effectively

Steps Followed

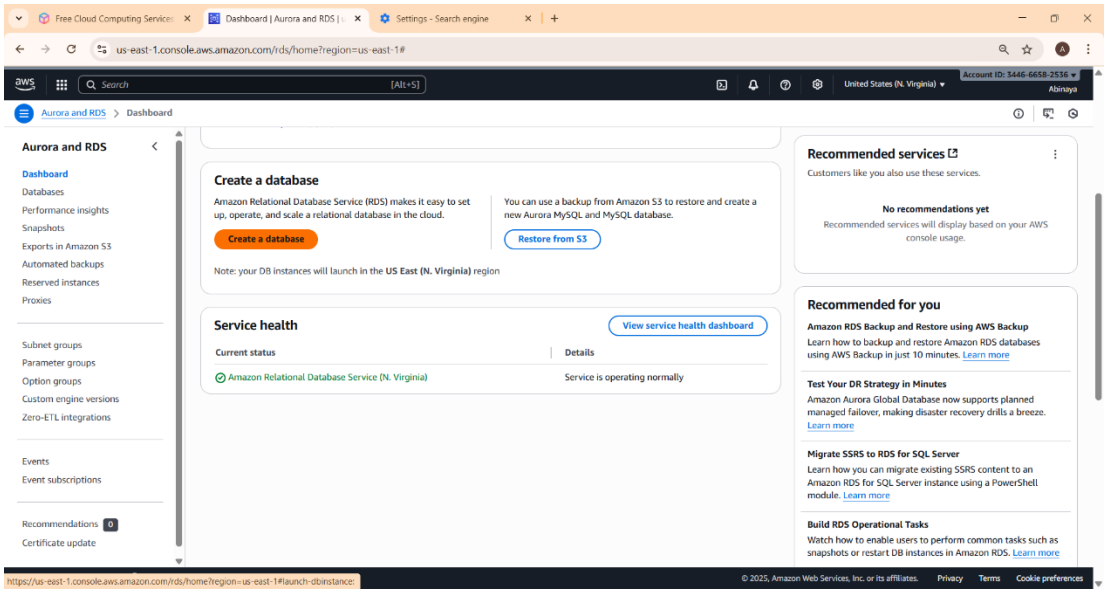
1. Created an RDS Instance (MySQL, Free Tier) with username and password.
2. Launched an EC2 Instance (Amazon Linux, Free Tier) in the same VPC.
3. Configured Security Groups — allowed inbound traffic on port 3306 from EC2 SG to RDS SG.
4. Installed MySQL Client on EC2 using:
5. sudo yum install -y mariadb105
6. Connected to RDS using the endpoint:
7. mysql -h <rds-endpoint> -u adminuser -p
8. Executed SQL Commands to create a database, table, and insert records:
9. CREATE DATABASE intern_demo;
10. USE intern_demo;
11. CREATE TABLE students (id INT AUTO_INCREMENT PRIMARY KEY, name VARCHAR(50), domain VARCHAR(30), score INT);

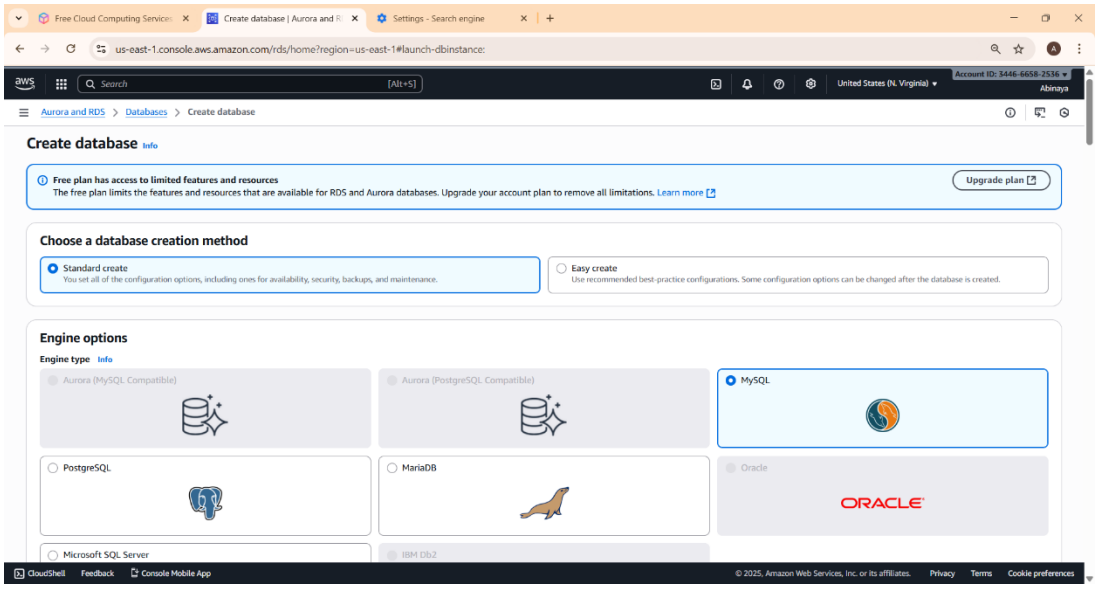
12. INSERT INTO students VALUES (1,'Aarav','Cloud',95);

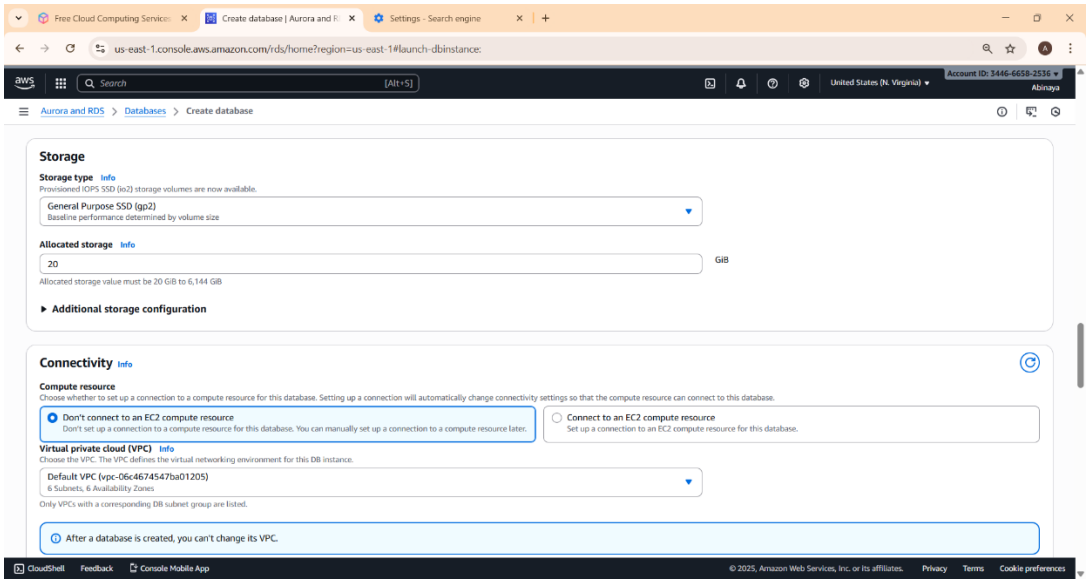
13. SELECT * FROM students;

14. Verified Connection and viewed data successfully from EC2 terminal.

15. Cleaned up by deleting the RDS instance, EC2 instance, and related security groups.






Free Cloud Computing Services
Create database | Aurora and R
Settings - Search engine
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Search
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United States (N. Virginia)
Account ID: 3446-6658-2536
Abinaya
Aurora and RDS > Databases > Create database
Storage
Storage type Info
Provisioned IOPS SSD (io2) storage volumes are now available.
General Purpose SSD (gp2)
Baseline performance determined by volume size
Allocated storage Info
20
GiB
Allocated storage value must be 20 GiB to 6,144 GiB
▶ Additional storage configuration
Connectivity Info
Compute resource
Choose whether to set up a connection to a compute resource for this database. Setting up a connection will automatically change connectivity settings so that the compute resource can connect to this database.
Don't connect to an EC2 compute resource
Don't set up a connection to a compute resource for this database. You can manually set up a connection to a compute resource later.
Connect to an EC2 compute resource
Set up a connection to an EC2 compute resource for this database.
Virtual private cloud (VPC) Info
Choose the VPC. The VPC defines the virtual networking environment for this DB instance.
Default VPC (vpc-06c4674547ba01205)
6 Subnets, 6 Availability Zones
Only VPCs with a corresponding DB subnet group are listed.
After a database is created, you can't change its VPC.
CloudShell
Feedback
Console Mobile App
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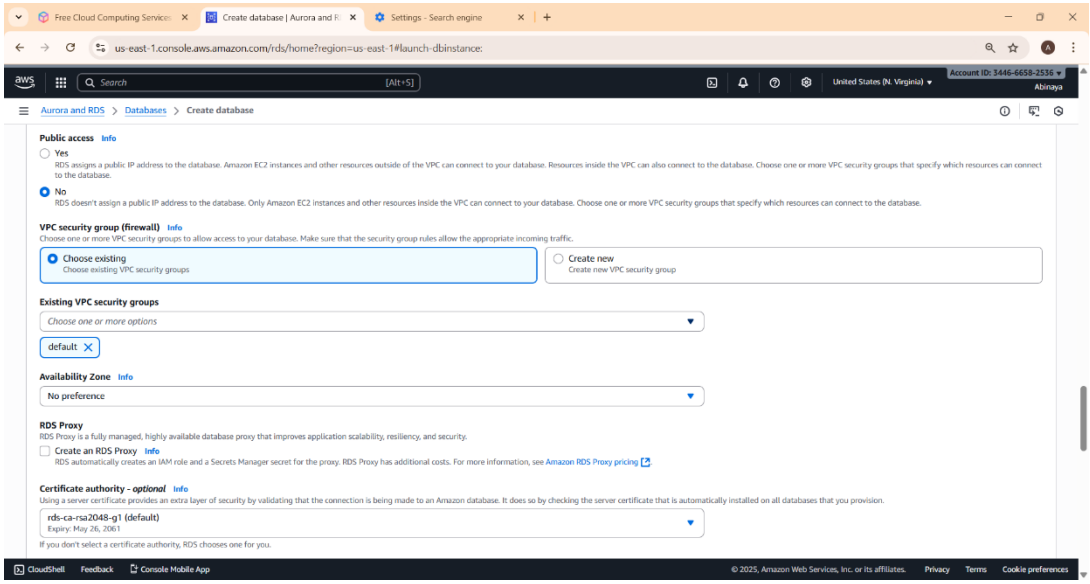
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Search
[Alt+S]
United States (N. Virginia)
Account ID: 3446-6658-2536
Abinaya
Aurora and RDS > Databases > Create database
Public access Info
Yes
RDS assigns a public IP address to the database. Amazon EC2 instances and other resources outside of the VPC can connect to your database. Resources inside the VPC can also connect to the database. Choose one or more VPC security groups that specify which resources can connect to the database.
No
RDS doesn't assign a public IP address to the database. Only Amazon EC2 instances and other resources inside the VPC can connect to your database. Choose one or more VPC security groups that specify which resources can connect to the database.
VPC security group (firewall) Info
Choose one or more VPC security groups to allow access to your database. Make sure that the security group rules allow the appropriate incoming traffic.
Choose existing
Choose existing VPC security groups
Create new
Create new VPC security group
Existing VPC security groups
Choose one or more options
default
Availability Zone Info
No preference
RDS Proxy
RDS Proxy is a fully managed, highly available database proxy that improves application scalability, resiliency, and security.
Create an RDS Proxy Info
RDS automatically creates an IAM role and a Secrets Manager secret for the proxy. RDS Proxy has additional costs. For more information, see Amazon RDS Proxy pricing
Certificate authority - optional Info
Using a server certificate provides an extra layer of security by validating that the connection is being made to an Amazon database. It does so by checking the server certificate that is automatically installed on all databases that you provision.
rds-ca-rsa2048-g1 (default)
Expiry: May 26, 2061
If you don't select a certificate authority, RDS chooses one for you.
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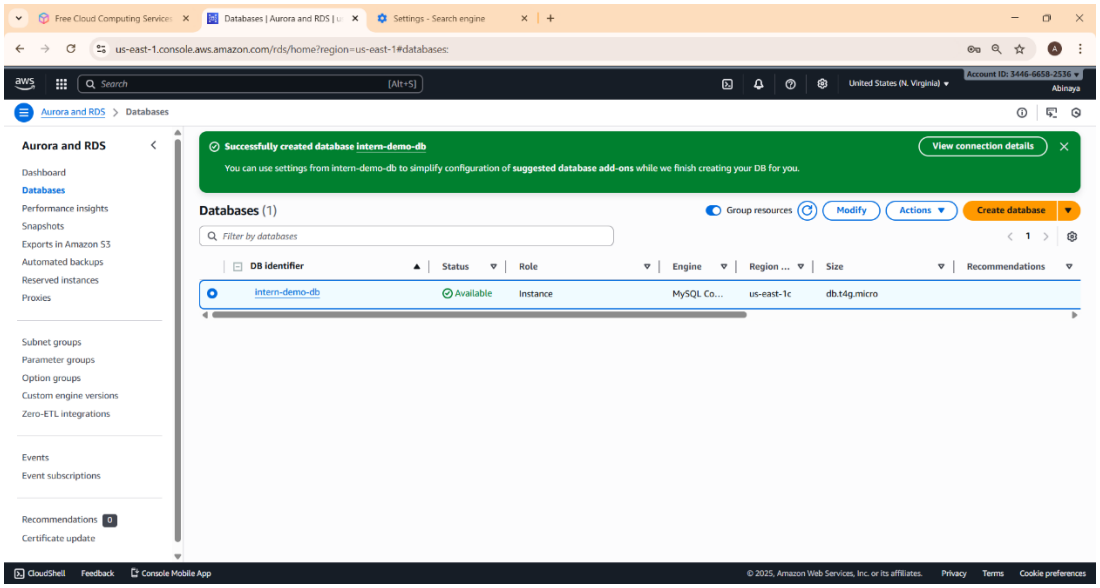

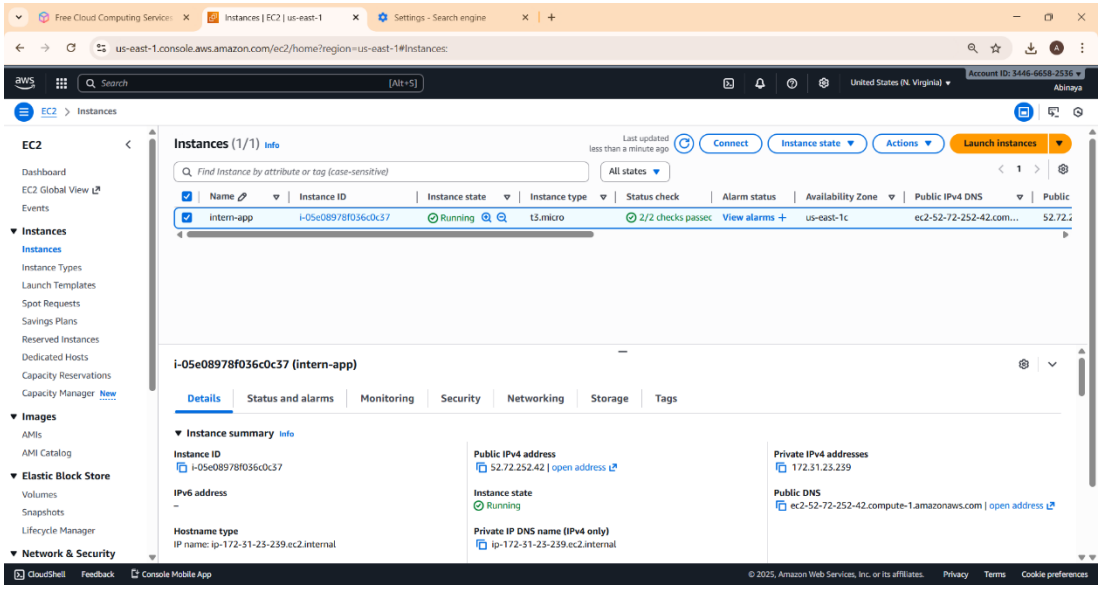

Conclusion

Through this task, I learned how to deploy, connect, and manage a cloud-hosted database using AWS RDS and EC2. I understood Database-as-a-Service (DBaaS) concepts, network security configuration, and the importance of cleanup to prevent unnecessary charges. This strengthened my practical skills in cloud infrastructure and database management.